

SUPPLEMENT

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Supplementary Appendix 1

All participants of the Covid-19 Citizen Science Study received health surveys through the mobile application regarding their demographics, medical comorbidities, SARS-CoV-2 infection status, behaviors, and exposures. Baseline surveys were conducted once at time of study enrollment. After enrollment, the mobile application would prompt participants to answer daily, weekly, and monthly health surveys to assess individual behaviors and exposures, as well as inquire about SARS-CoV-2 infection status and associated symptoms. Details regarding the specific questions in the health surveys can be found below.

Demographics Survey

Baseline Data Collection

Sections

Baseline Data Collection

What sex were you assigned at birth?

Male

Female

Prefer not to disclose

How would you describe your current gender identity?

Male

Female

Transgender Woman (Male-to-Female)

Transgender Man (Female-to-Male)

Genderqueer

Another Gender Identity

Decline to state

What gender identity do you identify with? (Optional)

What is your racial background? CHECK ALL THAT APPLY.

Black or African American	White
Asian (including South Asian and Asian Indian)	Native Hawaiian or Pacific Islander
	American Indian or Alaska Native
Some other race	Don't know

What is your Asian background?

Chinese	Filipino
Asian Indian	Japanese
Korean	Vietnamese
Other Asian or Mix	

What is your Pacific Island background?

Native Hawaiian	Samoan
Guamanian or Chamorro	Other Pacific Islander or Mix

This is a question about ethnicity, rather than race, as used in the US Census. For example, someone may be of white race and Hispanic ethnicity or black race and Hispanic ethnicity. Tap next to continue.

Are you of Hispanic, Latino or Spanish origin or ancestry?

No

Yes: Mexican, Mexican American or Chicano

Yes: Puerto Rican

Yes: Cuban

Yes: Other or Mixed Hispanic, Latino or Spanish origin

Don't know

Prefer not to state

Think of this ladder as representing where people stand in your country. At the top of the ladder are the people who are the best off -- those who have the most money, the most education and the most respectful jobs. At the bottom are the people who are the worst off -- who have the least money, least education, and least respectful jobs or no job. The higher up you are on the ladder, the closer you are to the people at the very top; the lower you are, the closer you are to the people at the very bottom. Tap next to continue.



Where would you place yourself on this ladder?

What is the highest level of education you have achieved?

No formal schooling

Some school, but did not graduate high school

High school diploma or equivalency (e.g., GED)

Associate degree (e.g., junior college)

Some college, but did not graduate college

Bachelor's degree

Master's degree

Doctorate (PhD)

Professional doctorate (MD, JD, DDS, etc.)

Other

Don't know

Prefer not to state

Click here to finish

Survey Builder: edit

Baseline Data Collection

Sections

Your Medical Conditions

Baseline Data Collection

Have you ever been told by a doctor or nurse that you have, or have been treated for, any of the following conditions (in the past or currently)? Tap next to continue.

High blood pressure or hypertension (except that occurred during pregnancy and did not last after pregnancy)?

☐

Yes

☐

No

☐

Don't know

Diabetes? Do not include pre-diabetes.

☐ Yes

☐ No

☐ Don't know

Coronary artery disease (blockages in your heart vessels) or angina (chest pain)?

☐ Yes

☐ No

☐ Don't know

A heart attack (myocardial infarction)?

☐ Yes

☐ No

☐ Don't know

<http://surveyor-parser.herokuapp.com/surveys/your-medical-conditions/HLIgQrm9tw/take>[6/9/20, 12:09:50 PM]

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☐ Congestive Heart failure (CHF, Heart Failure)?

☐

☐

☐ Stroke or TIA (Transient Ischemic Attack or Mini-Stroke)?

☐

☐

Atrial fibrillation (Afib, AF)?

☐ ☐

☐

Sleep apnea (obstructive sleep apnea, OSA)?

☐ ☐

☐

COPD (emphysema, chronic bronchitis, obstructive pulmonary disease)?

☐ ☐

☐

Asthma, to the point that you use inhalers daily or have been to the hospital for your asthma?

☐ ☐

[http://surveyor-parser.herokuapp.com/surveys/your-medical-conditions/HLIGQrm9tw/take\[6/9/20, 12:09:50 PM\]](http://surveyor-parser.herokuapp.com/surveys/your-medical-conditions/HLIGQrm9tw/take[6/9/20, 12:09:50 PM])

Survey Builder: edit

☐

☐ Cancer (including leukemia or lymphoma) undergoing active treatment?

☐

☐

Immunodeficiency (NOT including HIV)?

☐ ☐

☐

Chronic HIV infection?

☐ ☐

☐

Anemia or other blood disorder (do not include leukemia or lymphoma)?

☐ ☐

☐

Are you currently pregnant?

☐ ☐

Survey Builder: edit

[Don't know](#)[Click here to finish](#)

Survey Builder: edit

Baseline Data Collection

Sections

Your Smoking History

Baseline Data Collection

☐ Have you ever smoked a cigarette, even one or two puffs?

☐ Yes

☐ No

☐ Don't know

☐ Refuse to answer

Have you smoked cigarettes in the past 30 days?

☐ Yes

☐ No

☐ Refuse to answer

About how many days have you smoked a cigarette in the past 30 days?

On average, how many cigarettes per day have you smoked in the past 30 days (use 1 if less than one)

cigarettes per day

Have you ever smoked a cigar, cigarillo, or tobacco product other than cigarette, even one or two puffs?

☐ Yes

☐ No

☐ Don't know

☐ Refuse to answer

Have you smoked a cigar, cigarillo, or tobacco product other than a cigarette in the past 30 days?

Survey Builder: edit

☐

Yes

☐

No

Don't know

Refuse to answer

About how many days have you smoked a cigar, cigarillo, or tobacco product other than cigarette in the past 30 days?

days

On average, how many cigar, cigarillo, or tobacco product (other than cigarettes) per day have you smoked in the past 30 days (use 1 if less than one)?

Have you ever used an electronic nicotine product (e-cigarette, vape nicotine), even one or two puffs?

☐

Yes

☐

No

☐

Don't know

☐

Refuse to answer

Have you used an electronic nicotine product in the past 30 days?

☐

Yes

☐

No

☐

Don't know

☐

Refuse to answer

About how many days did you use it in the past 30 days?

days

How many puffs from an e-cigarette do you typically take over the past 30

Survey Builder: edit

days? on electronic delivery products in the past 30 days?

Dollars

Have you smoked or vaped marijuana, even one or two puffs?

☐

Yes

☐

No

☐

Don't know

☐

Refuse to answer

Have you smoked or vaped marijuana in the past 30 days?

☐

Yes

☐

No

☐

Don't know

☐

Refuse to answer

How many days did you smoke or vape marijuana in the past 30 days?

 Days[Click here to finish](#)

Survey Builder: edit

Baseline Data Collection

Sections

Baseline Survey

Baseline Data Collection

y residence? in the U.S.) or postal code of your primary residence?

Have you had any of the following symptoms since February 1, 2020 for more than 3 days in a row? CHECK ALL THAT APPLY

☐

A scratchy throat

☐

A painful sore throat

☐

A cough (worse than usual if you have a baseline cough)

☐

A runny nose

☐

Symptoms of fever or chills

☐

A temperature greater than 100.4 °F or 38.0 °C

☐

Muscle aches (worse than usual if you have baseline muscle aches)

☐

Nausea, vomiting or diarrhea

☐

Shortness of breath

☐

Unable to taste or smell

☐

Red or painful eyes

☐

None of the above

Have you ever been tested for the novel coronavirus, the virus that causes COVID-19 (either a test to detect the virus for active infection or the antibody to detect past infection)?

Yes

No

Survey Builder: edit

☐

Was it a test for active infection (virus) or past infection (antibody to the virus)? (The test for active infection usually uses a swab or saliva; the test for past infection usually uses blood.)

☐☐☐☐

Do you think you previously experienced symptomatic infection due to COVID-19?

☐☐

When did your symptoms start?

What symptoms did you have? CHECK ALL THAT APPLY

☐ ☐ ☐ ☐ ☐ ☐

Survey Builder: edit

☐

A temperature greater than
100.4 °F or 38.0 °C

☐

Muscle aches (worse than usual
if you have baseline muscle
aches)

☐

Nausea, vomiting or diarrhea

☐

Shortness of breath

☐

Unable to taste or smell

☐

Red or painful eyes

☐

Other

If other, please explain.

During the illness that you believe was due to COVID-19, were you tested for the flu?

☐

Yes

☐

No

What was the result?

☐

Positive for the flu

☐

Negative for the flu

☐

Other

Prior to the illness you believe was due to COVID-19, were you in physical

Survey Builder: edit

☐ contact with someone else that tested positive for the disease?

☐ Yes

☐ No

☐ Other

Prior to the illness you believe was due to COVID-19, were you in physical contact with someone else with symptoms suggestive of COVID-19?

☐ Yes

☐ No

☐ Other

Prior to the illness you believe was due to COVID-19, had you traveled to a region known to have a high prevalence of COVID-19?

☐ Yes

☐ No

☐ Other

During the illness you believe was due to COVID-19, did you seek to receive a test for active COVID-19 infection?

☐ Yes

☐ No

☐ Other

What happened when you sought the coronavirus test?

☐ I did receive a test, and it was positive.

☐ I did receive a COVID-19 test for active infection, and it was negative.

☐ I did receive a COVID-19 test for

☐ I was evaluated by a healthcare

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Survey Builder: edit

- ☐ active infection, but do not know the results.
- ☐ provider, but they did not believe the test was indicated.
- ☐ I was evaluated by a healthcare provider and they wanted to order a test, but it was not available.
- ☐ Other

Do you continue to have symptoms due to the illness you believe to be due to COVID-19?

- ☐ Yes
- ☐ No

On what date did you last experience symptoms?

Are there other reasons not covered by this survey that lead you to believe you have been infected with the novel coronavirus?

- ☐ Yes
- ☐ No
- ☐ Other

Please explain.

About how many weeks ago was your test for active COVID-19 infection (virus)? Put 0 if this week.

weeks ago

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About how many weeks ago was your test for past infection (antibody to the COVID-19 virus)? Put 0 if this week.

_____ weeks ago

Do you know the result of your test for active COVID-19 infection (virus)?

- | | |
|-----------------------|-----------------------|
| <input type="radio"/> | <input type="radio"/> |
| <input type="radio"/> | <input type="radio"/> |
| <input type="radio"/> | <input type="radio"/> |
- | | |
|---|---|
| <div>Yes, I was positive (the novel coronavirus WAS detected)</div> | <div>Yes, I was negative (the novel coronavirus was NOT detected)</div> |
| <div>Yes, the test was inconclusive</div> | <div>No, not yet</div> |

Do you know the result of your test for past infection (antibody to the COVID-19 virus)?

- | | |
|-----------------------|-----------------------|
| <input type="radio"/> | <input type="radio"/> |
| <input type="radio"/> | <input type="radio"/> |
| <input type="radio"/> | <input type="radio"/> |
- | | |
|---|--|
| <div>Yes, I was positive (antibody to COVID-19 WAS detected suggesting past exposure)</div> | <div>Yes, I was negative (antibody to COVID-19 was NOT detected suggesting NO past exposure)</div> |
| <div>Yes, the test was inconclusive</div> | <div>No, not yet</div> |

Why was the test for active COVID-19 infection (virus) performed? CHECK ALL THAT APPLY

- | | |
|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> |
- | | |
|--|--|
| <div>I had symptoms concerning for COVID-19 infection (including hospitalization for COVID-19)</div> | <div>I was exposed to someone with suspected or confirmed COVID-19</div> |
| <div>Prior to a medical procedure or hospitalization that was unrelated to COVID-19</div> | <div>It was offered through my healthcare provider as part of routine screening (not related to symptoms or pregnancy)</div> |

Survey Builder: edit

- | | |
|--|--|
| <input type="checkbox"/> It was part of screening for my pregnancy | <input type="checkbox"/> I am a healthcare worker and it is offered or mandated by my employer |
| <input type="checkbox"/> As part of a research study | <input type="checkbox"/> It was required by my work |
| <input type="checkbox"/> Part of a public health effort | <input type="checkbox"/> I obtained it on my own |
| <input type="checkbox"/> Not sure or other | |

Why was the test for past infection (antibody to the COVID-19 virus) performed? CHECK ALL THAT APPLY

- | | |
|--|--|
| <input type="checkbox"/> I had symptoms concerning for COVID-19 infection (including hospitalization for COVID-19) | <input type="checkbox"/> I was exposed to someone with suspected or confirmed COVID-19 |
| <input type="checkbox"/> Prior to a medical procedure or hospitalization that was unrelated to COVID-19 | <input type="checkbox"/> It was offered through my healthcare provider as part of routine screening (not related to symptoms or pregnancy) |
| <input type="checkbox"/> It was part of screening for my pregnancy | <input type="checkbox"/> I am a healthcare worker and it is offered or mandated by my employer |

Survey Builder: edit

- | | |
|---|---|
| <input type="checkbox"/> As part of a research study | <input type="checkbox"/> It was required by my work |
| <input type="checkbox"/> Part of a public health effort | <input type="checkbox"/> I obtained it on my own |
| <input type="checkbox"/> Not sure or other | |

Which of the following describes your primary area of employment?

- | | |
|---|---|
| <input type="radio"/> Healthcare | <input type="radio"/> Education |
| <input type="radio"/> Retail | <input type="radio"/> Transportation |
| <input type="radio"/> Arts, entertainment, and recreation | <input type="radio"/> Hospitality and food services |
| <input type="radio"/> Finance and insurance | <input type="radio"/> Scientific and technical services |
| <input type="radio"/> Utilities | <input type="radio"/> Construction |
| <input type="radio"/> Manufacturing | <input type="radio"/> Other |

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Are you aware of any novel coronavirus (the virus causing COVID-19) infected individuals in your COUNTY (or local area equivalent if your area does not

☐ have counties)?

☐

Yes

No

How worried are you that the health of you or your loved ones will be affected by the novel coronavirus (the virus causing COVID-19)?

☐

☐

Extremely worried

Very worried

☐

☐

Somewhat worried

A little worried

☐

Not worried at all

Has your local government issued or continued any of the following restrictions? CHECK ALL THAT APPLY

☐

School closures

☐

Restricted gatherings at (or closed) bars, restaurants, and/or theaters

☐

Restricted gatherings of a certain number of individuals

☐

Recommended working from home or not working

☐

Shelter in place (required to stay home except for essential activities)

☐

Other restrictions

How have your hand hygiene practices (washing hands and/or using hand sanitizer) changed since learning about the novel coronavirus (the virus causing COVID-19)?

☐

I wash or sanitize my hands MUCH MORE frequently than before

☐

I wash or sanitize my hands SOMEWHAT MORE frequently than before

Survey Builder: edit

- ☐ ☐
- ☐ I wash or sanitize my hands A LITTLE MORE frequently than before
- ☐ I have not made any changes
- ☐ I wash or sanitize my hands A LITTLE LESS frequently than before
- ☐ I wash or sanitize my hands SOMEWHAT LESS frequently than before
- ☐ I wash or sanitize my hands MUCH LESS frequently than before

Have you sanitized your mobile phone (such as by using sanitizing wipes or hand sanitizer) since learning of the novel coronavirus (the virus causing COVID-19)?

- ☐ Yes
- ☐ No
- ☐ Other

Do any school-aged (K-12 or equivalent) children live with you?

- ☐ Yes
- ☐ No
- ☐ Other

Do you have a college-aged child (under the age of 25) who usually does not live in your home but who has returned home and is living in your house because of the coronavirus pandemic?

- ☐ Yes
- ☐ No

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? (Your best guess is fine.)

MM/DD/YYYY

What school were they attending?

School

Where is the school located?

Do you live with or have continued regular in-person contact with an elderly person (over 65 years of age) or someone susceptible to illness (being immunocompromised or having a pre-existing medical condition)?

- ☐
- ☐
- ☐

Do you have any pets at home?

- ☐
- ☐
- ☐

What pets live with you (CHECK ALL THAT APPLY):

☐

☐

Survey Builder: edit

☐

Bird(s)

☐

Reptile(s)

☐

Other

Did you have a flu shot (influenza vaccine) in the past year?

☐

Yes

☐

No

☐

Other

Have you had cold or flu symptoms (enough that you would say that you had a cold or the flu) in the past year?

☐

Yes

☐

No

How many cold or flu illnesses in the past year were associated with a fever (Temperature > 101.3 F or > 38.5 C)?

☐

None

☐

1-3

☐

4-6

☐

More than 6

When was the last one?

weeks ago

How many cold or flu illnesses in the past year were NOT associated with a fever (Temperature > 101.3 F or > 38.5 C)?

☐

None

☐

1-3

Survey Builder: edit

<input type="radio"/>	<input type="radio"/>
<input type="text" value="4-6"/>	<input type="text" value="More than 6"/>

When was the last one?

weeks ago

On average, how often have you exercised (enough to breathe heavily and/or sweat) over the past year?

<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>

<input type="text" value="Never or rarely"/>	<input type="text" value="Less than once a month"/>
<input type="text" value="More than once a month but less than once a week"/>	<input type="text" value="About once a week"/>
<input type="text" value="4 or more times a week"/>	<input type="text" value="More than once a week but less than 4 times a week"/>
	<input type="text" value="Other"/>

IN THE PAST WEEK: How many drinks of alcohol (one drink = one standard glass of wine, can of beer, or shot of hard liquor) did you consume?

drinks

[Click here to finish](#)

Survey Builder: edit

Daily Surveys

Sections

Daily COVID-19 Citizen Science Survey

Daily Surveys

IN THE PAST 24 HOURS, approximately how many people outside of your household did you interact with while they were within 6 feet? ("Interact" is loosely defined as talking, touching, or just being within 6 ft of someone for longer than 1 or 2 minutes).

people

Approximately what percent of those people were wearing masks, or were behind a shield?

%

IN THE PAST 24 HOURS: have YOU had any of the following (CHECK ALL THAT APPLY):

☐

A scratchy throat

☐

A painful sore throat

☐

A cough (worse than usual if you have a baseline cough)

☐

A runny nose

☐

Symptoms of fever or chills

☐

A temperature greater than 100.4 °F or 38.0 °C

☐

Muscle aches (worse than usual if you have baseline muscle aches)

☐

Nausea, vomiting or diarrhea

☐

Shortness of breath

☐

Unable to taste or smell

☐

Red or painful eyes

☐

None of the above

Survey Builder: edit

☐ Did you seek medical care for these symptoms?

IN THE PAST 24 HOURS, has ANYONE (other than you) in your household had ANY of those symptoms? (scratchy/sore throat, cough, runny nose, fevers/chills/high temperature, muscle aches, nausea/vomiting/diarrhea, shortness of breath, unable to taste or smell, red or painful eyes)

☐☐[Click here to finish](#)

Survey Builder: edit

Weekly Surveys

Sections

Weekly COVID-19 Citizen Science Survey

Weekly Surveys

In the past week, have you received results of any tests that you had done for the novel coronavirus, the virus that causes COVID-19 (either a test to detect the virus for active infection or the antibody to detect past infection)?

- ☐ ☐
- ☐ Yes ☐ No
- ☐ I got a test, but don't know the results

Was it a test for active infection (virus) or past infection (antibody to the virus)? (The test for active infection usually uses a swab or saliva; the test for past infection usually uses blood.)

- ☐ ☐
- ☐ Test for active infection (virus) ☐ Test for past infection (antibody to the virus)
- ☐ I had both kind of tests ☐ I don't know

Do you know the result of your test for active COVID-19 infection (virus)?

- ☐ ☐
- ☐ Yes, I was positive (the novel coronavirus WAS detected) ☐ Yes, I was negative (the novel coronavirus was NOT detected)
- ☐ Yes, the test was inconclusive ☐ No, not yet

Do you know the result of your test for past infection (antibody to the COVID-19 virus)?

- ☐ ☐
- ☐ Yes, I was positive (antibody to ☐ Yes, I was negative (antibody to

Weekly_Survey Builder_edit.htm[7/17/20, 8:57:36 AM]

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COVID-19 WAS detected
suggesting past exposure)

COVID-19 was NOT detected
suggesting NO past exposure)

☐

Yes, the test was inconclusive

☐

No, not yet

Why was the test for active COVID-19 infection (virus) performed? CHECK ALL THAT APPLY

☐

I had symptoms concerning for
COVID-19 infection (including
hospitalization for COVID-19)

☐

I was exposed to someone with
suspected or confirmed COVID-
19

☐

Prior to a medical procedure or
hospitalization that was
unrelated to COVID-19

☐

It was offered through my
healthcare provider as part of
routine screening (not related to
symptoms or pregnancy)

☐

It was part of screening for my
pregnancy

☐

I am a healthcare worker and it
is offered or mandated by my
employer

☐

As part of a research study

☐

It was required by my work

☐

Part of a public health effort

☐

I obtained it on my own

Why was the test for past infection (antibody to the COVID-19 virus)
performed? CHECK ALL THAT APPLY

☐

I had symptoms concerning for
COVID-19 infection (including
hospitalization for COVID-19)

☐

I was exposed to someone with
suspected or confirmed COVID-
19

Prior to a medical procedure or

It was offered through my

Survey Builder: edit

☐ hospitalization that was unrelated to COVID-19☐ healthcare provider as part of routine screening (not related to symptoms or pregnancy)☐ It was part of screening for my pregnancy☐ I am a healthcare worker and it is offered or mandated by my employer☐ As part of a research study☐ It was required by my work☐ Part of a public health effort☐ I obtained it on my own

Over the past WEEK, how worried have you been that the health of you or your loved ones will be affected by the novel coronavirus (the virus causing COVID-19)?

☐ Extremely worried☐ Very worried☐ Somewhat worried☐ A little worried☐ Not worried at all

Over the past WEEK, on average, how often have you washed or sanitized your hands?

☐ More than 10 times per day☐ 5-10 times per day☐ 2-4 times per day☐ About once per day

Weekly_Survey Builder_edit.htm[7/17/20, 8:57:36 AM]

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☐ Less than once per day☐

Over the past WEEK, how many times have you visited a gym?

Over the past WEEK, how many times have you visited a restaurant (not for takeout)?

Over the past WEEK, how many times have you visited a bar?

Over the past WEEK, how many times have you visited a movie theater?

Over the past WEEK, how many times have you visited a grocery store or pharmacy?

Over the past WEEK, how many times have you visited an event with more than 10 people?

Over the past WEEK, how many times have you exercised for more than 20 minutes (enough to breathe heavily and/or sweat)?

Over the past WEEK, has your local government issued or continued any of

Survey Builder: edit

☐ the following restrictions? (CHECK ALL THAT APPLY)

☐

Shelter in place (required to stay home except essential activities)

☐

Other restrictions

☐

School closures

☐

Restricted gatherings of a certain number of individuals

☐

Wearing masks when out in public

☐

None of the above

☐

Restricted gatherings at (or closed) bars, restaurants, and/or theaters

☐

Recommended working from home or not working

Over the past WEEK, on average, how many hours did you sleep per night?

hours per night

Over the past week, how often did you wear a mask (any kind of covering over your mouth and nose) when you're out in public?

☐

Never

☐

Sometimes

☐

Most of the time

☐

Always

☐

I did not go out in public this past week

Click here to finish

Survey Builder: edit

Monthly Surveys

Sections

Monthly COVID-19 Citizen Science Survey

Monthly Surveys

Please answer the following for the period of the past 30 days. Tap next to continue.

What best describes your current main daily activities and/or responsibilities over the past 30 days?

- | | |
|-----------------------|-----------------------|
| <input type="radio"/> | <input type="radio"/> |
| <input type="radio"/> | <input type="radio"/> |
| <input type="radio"/> | <input type="radio"/> |
| <input type="radio"/> | <input type="radio"/> |
| <input type="radio"/> | <input type="radio"/> |
- Working full time
- Working part-time
- Unemployed, laid off, or looking for work
- In school (full- or part-time student)
- Stay-at-home parent or keeping household
- Retired
- Disabled
- Prefer not to state

How much of your working time is currently performed at home?

- | | |
|-----------------------|-----------------------|
| <input type="radio"/> | <input type="radio"/> |
| <input type="radio"/> | <input type="radio"/> |
| <input type="radio"/> | <input type="radio"/> |
- 100% of the time
- 75-99% of the time
- 50-74% of the time
- 25-49% of the time
- 1-24% of the time
- None

Has your income changed in the past 30 days?

- | | |
|-----------------------|-----------------------|
| <input type="radio"/> | <input type="radio"/> |
|-----------------------|-----------------------|
- Yes, it has increased
- Yes it has declined

Monthly Survey.htm[6/9/20, 12:13:15 PM]

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☐

No, it is about the same

☐

Prefer not to state

In the past 30 days, by what percentage has your income increased?

%

In the past 30 days, by what percentage has your income declined?

%

In the past 30 days, have you been unemployed?

☐

Yes

☐

No

☐

Prefer not to state

How hard is it for you (and your family) to pay for the very basics like food, rent or mortgage, heating, etc over the past 30 days?

☐

Very hard

☐

Hard

☐

Somewhat hard

☐

Not very hard

☐

Don't know

☐

Prefer not to state

Did you have difficulty making ends meet over the past 30 days?

☐

Frequently

☐

Occasionally

☐

Hardly ever

☐

Never

☐

Don't know

☐

Prefer not to state

Monthly Survey.htm[6/9/20, 12:13:15 PM]

Survey Builder: edit

IN THE PAST WEEK: How many drinks of alcohol (one drink = one standard glass of wine, can of beer, or shot of hard liquor) did you consume?

drinks

[Click here to finish](#)

Survey Builder: edit

Monthly Surveys

Sections

Hospitalization Survey

Monthly Surveys

Have you been hospitalized (had an overnight stay in a hospital) in the past month or since the last time you answered?

☐☐

Yes

No

How many days did you spend in the hospital over the past 30 days?

days

Have you been to the emergency room or Urgent Care (when you were NOT admitted to the hospital overnight) in the past 30 days or since the last time you answered?

☐☐

Yes

No

How many times did you go to the emergency room or Urgent Care (when you were NOT admitted to the hospital overnight) in the past 30 days or since the last time you answered?

When were you discharged from the hospital (if more than one time, use most recent)?

MM/DD/YYYY

What was the main reason for your most recent hospitalization (you can look at the papers you received at discharge from the hospital)?

☐☐

Suspected COVID-19 infection

Asthma

☐☐

Chronic obstructive pulmonary

Pneumonia

Hospitalizations.htm[6/9/20, 12:07:52 PM]

Survey Builder: edit

- ☐
- ☐
- ☐
- ☐
- ☐

Please specify the main reason for your hospitalization.

When did you most recently visit the emergency department or Urgent Care?

MM/DD/YYYY

What was the main reason for your most recent emergency department or Urgent Care visit (you can look at the papers you received at discharge from the hospital)?

- ☐
- ☐
- ☐
- ☐
- ☐
- ☐
- ☐
- ☐

Hospitalizations.htm[6/9/20, 12:07:52 PM]

Survey Builder: edit

Please specify the main reason for your most recent emergency department

[Click here to finish](#)

Survey Builder: edit

Monthly Surveys

Sections

Mood Survey

Monthly Surveys

Over the last 2 weeks, how often have you been bothered by any of the following problems? Tap next to continue.

Little interest or pleasure in doing things.

- | | |
|-----------------------|-----------------------|
| <input type="radio"/> | <input type="radio"/> |
| <input type="radio"/> | <input type="radio"/> |
| <input type="radio"/> | <input type="radio"/> |
| <input type="radio"/> | <input type="radio"/> |

Feeling down, depressed, or hopeless.

- | | |
|-----------------------|-----------------------|
| <input type="radio"/> | <input type="radio"/> |
| <input type="radio"/> | <input type="radio"/> |
| <input type="radio"/> | <input type="radio"/> |
| <input type="radio"/> | <input type="radio"/> |

Trouble falling or staying asleep, or sleeping too much.

- | | |
|-----------------------|-----------------------|
| <input type="radio"/> | <input type="radio"/> |
| <input type="radio"/> | <input type="radio"/> |
| <input type="radio"/> | <input type="radio"/> |
| <input type="radio"/> | <input type="radio"/> |

Feeling tired or having little energy.

- | | |
|-----------------------|-----------------------|
| <input type="radio"/> | <input type="radio"/> |
| <input type="radio"/> | <input type="radio"/> |
| <input type="radio"/> | <input type="radio"/> |
| <input type="radio"/> | <input type="radio"/> |

Poor appetite or overeating.

[http://surveyor-parser.herokuapp.com/surveys/mood-survey/-J7wSFAVaQ/take\[6/9/20, 12:15:25 PM\]](http://surveyor-parser.herokuapp.com/surveys/mood-survey/-J7wSFAVaQ/take[6/9/20, 12:15:25 PM])

Survey Builder: edit

- | | | | |
|-----------------------|--|-----------------------|---|
| <input type="radio"/> | <input type="text" value="Not at all"/> | <input type="radio"/> | <input type="text" value="Several days"/> |
| | <input type="text" value="More than half the days"/> | | <input type="text" value="Nearly every day"/> |

Feeling bad about yourself - or that you are a failure or have let yourself or your family down.

- | | | | |
|-----------------------|--|-----------------------|---|
| <input type="radio"/> | <input type="text" value="Not at all"/> | <input type="radio"/> | <input type="text" value="Several days"/> |
| <input type="radio"/> | <input type="text" value="More than half the days"/> | <input type="radio"/> | <input type="text" value="Nearly every day"/> |

Trouble concentrating on things, such as reading the newspaper or watching television.

- | | | | |
|-----------------------|--|-----------------------|---|
| <input type="radio"/> | <input type="text" value="Not at all"/> | <input type="radio"/> | <input type="text" value="Several days"/> |
| <input type="radio"/> | <input type="text" value="More than half the days"/> | <input type="radio"/> | <input type="text" value="Nearly every day"/> |

Moving or speaking so slowly that other people could have noticed. Or the opposite - being so fidgety or restless that you have been moving around a lot more than usual.

- | | | | |
|-----------------------|--|-----------------------|---|
| <input type="radio"/> | <input type="text" value="Not at all"/> | <input type="radio"/> | <input type="text" value="Several days"/> |
| <input type="radio"/> | <input type="text" value="More than half the days"/> | <input type="radio"/> | <input type="text" value="Nearly every day"/> |

[Click here to finish](#)

Survey Builder: edit

Monthly Surveys

Sections

Anxiety Survey

Monthly Surveys

☐ Becoming easily annoyed or irritable ☐

- | | |
|--|---|
| <input type="radio"/> <input type="text" value="Not at all"/> | <input type="radio"/> <input type="text" value="Several days"/> |
| <input type="radio"/> <input type="text" value="More than half the days"/> | <input type="radio"/> <input type="text" value="Nearly every day"/> |

Over the last two weeks, how often have you been bothered by the following problems? Tap next to continue.

Feeling nervous, anxious, or on edge.

- | | |
|--|---|
| <input type="radio"/> <input type="text" value="Not at all"/> | <input type="radio"/> <input type="text" value="Several days"/> |
| <input type="radio"/> <input type="text" value="More than half the days"/> | <input type="radio"/> <input type="text" value="Nearly every day"/> |

Not being able to stop or control worrying.

- | | |
|--|---|
| <input type="radio"/> <input type="text" value="Not at all"/> | <input type="radio"/> <input type="text" value="Several days"/> |
| <input type="radio"/> <input type="text" value="More than half the days"/> | <input type="radio"/> <input type="text" value="Nearly every day"/> |

Worrying too much about different things.

- | | |
|--|---|
| <input type="radio"/> <input type="text" value="Not at all"/> | <input type="radio"/> <input type="text" value="Several days"/> |
| <input type="radio"/> <input type="text" value="More than half the days"/> | <input type="radio"/> <input type="text" value="Nearly every day"/> |

Trouble relaxing.

- | | |
|---|---|
| <input type="radio"/> <input type="text" value="Not at all"/> | <input type="radio"/> <input type="text" value="Several days"/> |
|---|---|

[http://surveyor-parser.herokuapp.com/surveys/anxiety-survey/zyzfZmIwQQ/take\[6/9/20, 10:44:25 AM\]](http://surveyor-parser.herokuapp.com/surveys/anxiety-survey/zyzfZmIwQQ/take[6/9/20, 10:44:25 AM])

Survey Builder: edit

<input type="radio"/>		<input type="radio"/>	
	<input type="text" value="More than half the days"/>		<input type="text" value="Nearly every day"/>
<input type="radio"/>		<input type="radio"/>	
	<input type="text" value="Not at all"/>		<input type="text" value="Several days"/>
<input type="radio"/>		<input type="radio"/>	
	<input type="text" value="More than half the days"/>		<input type="text" value="Nearly every day"/>

Feeling afraid as if something awful might happen.

<input type="radio"/>		<input type="radio"/>	
	<input type="text" value="Not at all"/>		<input type="text" value="Several days"/>
<input type="radio"/>		<input type="radio"/>	
	<input type="text" value="More than half the days"/>		<input type="text" value="Nearly every day"/>

Supplementary Appendix 2

Participants of the Covid-19 Citizen Science Study who reported a positive polymerase chain reaction (PCR), antigen, or antibody test prior to enrollment in the study or during their time in the study were called by clinical research coordinators to verify their results and request test documentation to be sent to the study coordinators. In a similar manner to participation in the study, submission of test documentation was entirely voluntary. Thus far, 200 participants who reported prevalent or incident SARS-CoV-2 infections have been called to verify their self-reported results. Of the 93 participants who were reached, 83 verbalized that they would send in their test results, and we have thus far received 52 pieces of documentation to verify self-reported SARS-CoV-2 results. Of the 52 pieces of documentation received, all 52 were either laboratory test results or mandated reporting letters from hospitals/clinics notifying the participant of their PCR or antigen-confirmed SARS-CoV-2 infection.

34 **Supplementary Tables**

Study Week	Proportion of participants who completed at least one survey (%)
1	100%
2	97.3%
3	94.9%
4	92.5%
5	91.8%
6	88.8%
7	88.8%
8	88.8%
9	86.4%
10	84.7%
11	83.1%
12	82.1%
13	83.3%
14	83.1%
15	82.8%
16	82.3%
17	88.7%
18	86.7%
19	86.8%
20	86.2%
21	85.9%
22	88.1%
23	88.8%
24	88.4%
25	89.2%
26	90.2%
27	93.0%
28	100%

Supplementary Table 1. Mean proportion of participants who completed at least one health survey each week.

35
36
37

Study Month	Proportion of participants who completed at least one survey (%)
1	100%
2	98.2%
3	95.6%
4	96.9%
5	97.4%
6	98.5%
7	100%

Supplementary Table 2. Mean proportion of participants who completed at least one health survey each month.

	Odds Ratio	95% CI	p-value	Group p-value
Age (years)	0.98	0.97, 1.00	0.014	
Female Biological Sex	0.95	0.59, 1.54	0.84	
Race/Ethnicity				
White	reference			0.40*
Black	2.96	0.71, 12.29	0.13	0.52†
Hispanic (any race)	1.19	0.53, 2.65	0.67	
Other (including multiracial)	1.69	0.53, 5.40	0.38	
MacArthur Subjective Social Status Ladder	0.92	0.82, 1.04	0.19	
Alcoholic drinks per week, last 4-21 days	0.97	0.93, 1.00	0.07	
Number of contacts (per 10), last 4-21 days	1.11	1.02, 1.21	0.012	
Number of events with 10 or more people (per 10), last 4-21 days	1.26	1.07, 1.48	0.006	
Number of visits to movie theaters (per 10), last 4-21 days	2.00	0.97, 4.11	0.06	
Number of visits to restaurants (per 10), last 4-21 days	1.85	1.37, 2.49	<0.001	
Weeks since study start (linear)	1.04	1.01, 1.07	0.017	

Supplementary Table 3. Backward stepwise logistic model for incident SARS-CoV-2 infection using retention criterion of $p < 0.1$ with standard errors clustered on participants.

* overall heterogeneity

† heterogeneity of non-reference levels

linear trend

47

	Odds Ratio	95% CI	p-value	Group p-value
Age (years)	0.98	0.96, 0.99	0.008	
Female Biological Sex	0.81	0.49, 1.34	0.42	
Race/Ethnicity				
White	reference			0.43*
Black	3.00	0.72, 12.53	0.13	0.56†
Hispanic (any race)	1.35	0.64, 2.86	0.43	
Other (including multiracial)	1.19	0.28, 4.97	0.81	
MacArthur Subjective Social Status Ladder	0.93	0.82, 1.05	0.24	
Alcoholic drinks per week, last 4-21 days	0.97	0.94, 1.00	0.06	
Number of contacts (per 10), last 4-21 days	1.10	1.00, 1.21	0.04	
Number of events with 10 or more people (per 10), last 4-21 days	1.29	1.09, 1.53	0.003	
Number of visits to movie theaters (per 10), last 4-21 days	1.99	0.97, 4.08	0.059	
Number of visits to restaurants (per 10), last 4-21 days	2.31	1.46, 3.63	<0.001	
Weeks since study start (linear)	1.04	1.01, 1.07	0.008	

48 **Supplementary Table 4.** Backward stepwise logistic model for incident SARS-CoV-2 infection
 49 using retention criterion of $p < 0.1$ with standard errors clustered on FIPS county-level codes
 50 (using US participants only).

51 * overall heterogeneity

52 † heterogeneity of non-reference levels

53 # linear trend

54

55

	Odds Ratio	95% CI	p-value	Group p-value
Age (years)	0.98	0.97, 0.99	0.007	
Female Biological Sex	0.88	0.55, 1.42	0.60	
Race/Ethnicity				
White	reference			0.39*
Black	2.91	0.70, 12.09	0.14	0.55†
Hispanic (any race)	1.23	0.55, 2.75	0.62	
Other (including multiracial)	1.74	0.54, 5.57	0.35	
MacArthur Subjective Social Status Ladder	0.92	0.81, 1.04	0.17	
Alcoholic drinks per week, last 4-21 days	0.97	0.93, 1.00	0.07	
Number of contacts (per 10), last 4-21 days	1.12	1.03, 1.21	0.008	
Number of events with 10 or more people (per 10), last 4-21 days	1.29	1.09, 1.52	0.003	
Number of visits to movie theaters (per 10), last 4-21 days	1.98	0.95, 4.09	0.07	
Number of visits to restaurants (per 10), last 4-21 days	1.83	1.36, 2.47	<0.001	
Weeks since study start (linear)	1.04	1.01, 1.07	0.015	

56 **Supplementary Table 5.** Backward stepwise logistic model for incident SARS-CoV-2 infection
57 using retention criterion of $p < 0.1$ with standard errors clustered on zip codes (using US
58 participants only).

59 * overall heterogeneity

60 † heterogeneity of non-reference levels

61 # linear trend

62